California Department of Pesticide Regulation *News*

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Facts about spinosad

Spinosad ("spin-OH-said") joins a relatively new class of insecticides. A product of bacterial fermentation, spinosad is classified as a "reduced-risk" compound by the U.S. Environmental Protection Agency. The Department of Pesticide Regulation (DPR) first registered a spinosad product for California use in 1996.

DPR and U.S. EPA cooperated to expedite the registration of spinosad products because they provide an alternative to more toxic, organophoshate insecticides. As a naturally-derived, low-impact pesticide, spinosad labels carry the signal word "Caution", the lowest human hazard signal word assigned by U.S. EPA. Spinosad is not a restricted use pesticide. (Restricted use pesticides require training for handlers, based on potential hazards.) Dow AgroSciences developed and registered spinosad as a pesticide.

How spinosad works

Spinosad has been used in California against a number of pests, including fruit flies, caterpillars, and armyworms. Spinosad products contain attractants that encourage the target pest to feed on the active pesticide ingredient. Once ingested, spinosad kills the target pest by over-stimulating its nervous system in a manner that is unique to insects. Dow asserts this mode of action helps prevent insects from building up resistance to the compound.

In ordinary agricultural applications, spinosad products are mixed with water and applied with ground sprayer equipment at a rate of a few ounces per acre. A new, organic spinosad fruit fly bait formula is primarily water, sugars and attractants; the active ingredient is less than one percent of the product.

How it's used in agriculture

In 2001, preliminary DPR pesticide use statistics showed a total of about 51,000 pounds of spinosad applied statewide. Major uses included head lettuce (about 8,600 pounds), oranges (about 8,000 pounds), celery (about 3,400 pounds), and spinach (about 1,700 pounds).

In San Diego County, preliminary 2001 pesticide use reports showed about 600 pounds of spinosad use, including tomatoes (323 pounds) and avocados (67 pounds). No other single commodity in San Diego accounted for more than about 45 pounds of reported use in 2001.

Special pesticide registrations for spinosad

While spinosad is a naturally-derived insecticide and a "reduced-risk" compound, the formulation registered by DPR in 1996 does not qualify as organic, because it uses a synthetic chemical to retard spoilage of the sugar bait. Dow Agrosciences recently received a federal registration for a new spinosad formulation without the spoilage retardant that qualified as an organic pesticide under federal and state guidelines.

The process of registering a new pesticide product in California, prescribed by state law, usually requires several months at a minimum. However, DPR has extensive experience dealing with situations where a pest outbreak requires a compound not yet registered for use in California. Federal law allows temporary pesticide registrations ("Section 18" and "Section 24c") to combat major pest infestations in such situations. The special registrations are time- and/or site-specific.

DPR previously received a Section 18 "emergency exemption registration" for use of spinosad against a Mexican fruit fly infestation in Fallbrook that was eradicated in 2000. Section 18 registrations usually must be approved by U.S. EPA and extend for up to one year. They may be renewed only if the emergency continues or reoccurs.

Section 24c "special local need registrations" may be issued by DPR without prior approval by U.S. EPA. They have no automatic expiration date. Both Section 18's and 24c's include detailed instructions on pesticide use, in addition to the U.S. EPA label directions on the container.

When a Mexican fruit fly infestation was recently confirmed in San Diego County, DPR and the California Department of Food and Agriculture (CDFA) immediately began working together on a special registration for the new, organic spinosad product. It would allow CDFA to conduct a full-scale eradication campaign without disrupting organic growers in the infested area.

On December 4, 2002, DPR granted a Section 24c to CDFA, allowing it the use of organic spinosad in San Diego County on the majority of crops affected, including grapefruit and avocado. This "special local needs registration" allows CDFA to make ground and aerial applications of the organic compound.

DPR also filed a Section 18 "emergency exemption" request with U.S. EPA on behalf of CDFA on December 4. It was approved on December 5. This special registration is for statewide use, allows aerial applications, and includes a few crops that could not included in the Section 24c for technical reasons.

Pest eradication roles, responsibilities

CDFA holds authority to conduct pest eradication campaigns, in cooperation with the U.S. Department of Agriculture and County Agricultural Commissioners. (California's organic program is also administered by CDFA.) DPR provides pesticide registration, consultation, environmental monitoring, and other support services for CDFA pest eradication campaigns.

News media may contact CDFA spokesmen Steve Lyle (916 654-0462) or Jay Van Rein (916-952-3586), or San Diego County Agricultural Commissioner Kathleen Thuner (858-694-2741).

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